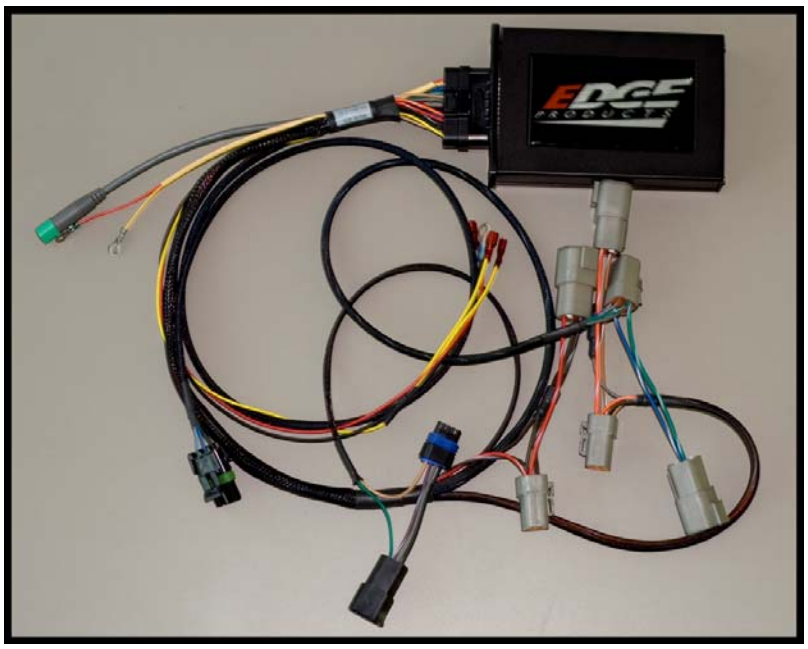
Dodge Cummins 600

Edge Juice and Attitude
Installation Instructions and Manual



EDGE PRODUCTS INC.
DIESEL PERFORMANCE

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The *Juice* Module is a high performance product
It is strongly recommended that EGT and boost gauges be installed when using this product.
USE THIS PRODUCT AT YOUR OWN RISK.

Do not use this product until you have carefully read the following agreement.

This sets forth the terms and conditions for the use of this product. The installation of this product indicates that the BUYER has read and understands this agreement and accepts its terms and conditions

DISCLAIMER OF LIABILITY

Edge Products, LLC and its successors, distributors, jobbers, and dealers (hereafter **SELLER**) shall in no way be responsible for the product's proper use and service. THE **BUYER** HEREBY WAIVES ALL LIABILITY CLAIMS.

The **BUYER** acknowledges that he/she is not relying on the **SELLER's** skill or judgment to select or furnish goods suitable for any particular purpose and that there are no liabilities which extend beyond the description on the face hereof and the **BUYER** hereby waives all remedies or liabilities, expressed or implied, arising by law or otherwise, (including without any obligations of the **SELLER** with respect to fitness, merchantability and consequential damages) or whether or not occasioned by the **SELLER's** negligence.

The **SELLER** disclaims any warranty and expressly disclaims any liability for personal injury or damages. The **BUYER** acknowledges and agrees that the disclaimer of any liability for personal injury is a material term for this agreement and the **BUYER** agrees to indemnify the **SELLER** and to hold the **SELLER** harmless from any claim related to the item of the equipment purchased. Under no circumstances will the **SELLER** be liable for any damages or expenses by reason of use or sale of any such equipment.

The **SELLER** assumes no liability regarding the improper installation or misapplication of its products.
It is the installer's responsibility to check for proper installation and if in doubt, contact the manufacturer.

LIMITATION OF WARRANTY

Edge Products, LLC (hereafter "**SELLER**") gives Limited Warranty as to description, quality, merchantability, fitness for any product's purpose, productiveness, or any other matter of **SELLER's** product sold herewith. The **SELLER** shall be in no way responsible for the product's open use and service and the **BUYER** hereby waives all rights other than those expressly written herein. This Warranty shall not be extended or varied except by a written instrument signed by **SELLER** and **BUYER**.

The Warranty is Limited to one (1) year from the date of sale and limited solely to the parts contained within the product's kit. All products that are in question of Warranty must be returned shipping prepaid to the **SELLER** and must be accompanied by a dated proof of purchase receipt. All Warranty claims are subject to approval by Edge Products, LLC

Under no circumstances shall the **SELLER** be liable for any labor charged or travel time incurred in diagnosis for defects, removal, or reinstallation of this product, or any other contingent expenses.

If the **BUYER** sends back a failed unit that is out of warranty and chooses to buy a refurbished unit, the refurbished unit will only carry a 60 day warranty. If the **BUYER** purchases a new unit at a predetermined discounted rate, it will have the standard 1 year warranty.

Under no circumstances will the **SELLER** be liable for any damage or expenses insured by reason of the use or sale of any such equipment.

IN THE EVENT THAT THE BUYER DOES NOT AGREE WITH THIS AGREEMENT: THE BUYER MAY PROMPTLY RETURN THIS PRODUCT, IN A NEW AND UNUSED CONDITION, WITH A DATED PROOF OF PURCHASE, TO THE PLACE OF PURCHASE WITHIN SIXTY (60) DAYS FROM DATE OF PURCHASE FOR A FULL REFUND.

THE INSTALLATION OF THIS PRODUCT INDICATES THAT THE BUYER HAS READ AND UNDERSTANDS THIS AGREEMENT AND ACCEPTS ITS TERMS AND CONDITIONS.

Legal in California only for racing vehicles which may *never* be used upon a highway.

AFTERMARKET PRODUCTS AND YOUR VEHICLE'S WARRANTY

Many of our customers ask, "Will your product void my vehicle manufacturer's warranty?" While the answer is straightforward from a legal standpoint, we also want to educate our customers (and after-market consumers) on some industry realities and offer some common sense precautions to minimize your risk.

Consumers of aftermarket products are protected by The Federal Magnusson-Moss Warranty Act. The Act states that if something breaks on your car and you take it in for warranty repair, the dealer must honor your warranty unless they can prove that whatever modifications you have added to your car actually caused the problem. Please keep in mind that towing in anything higher than level two and hard driving in levels four and five are not recommended.

While as a consumer, you have strong legal protection with regards to your vehicle's warranty, there is also a practical reality that different automotive manufacturers and dealers have greatly varying views on aftermarket products, in particular those that produce horsepower, such as performance enhancement chips, modified intake manifolds, or aftermarket exhaust systems. There are dealers and manufacturers out there that will use the presence of a horsepower upgrade to void your vehicle's warranty. They will do this regardless of whose product you are using. Any aftermarket company that does not acknowledge this is misleading you.

The bottom line is that while the law protects the consumer and provides for enforcement of the warranty, it is very difficult for most people to hire an attorney and fight a voided warranty. Edge recommends that you **always disconnect and remove your module and monitor when you take your vehicle to a dealer for warranty work** in order not to interfere with Diagnostic equipment.

About the Dodge Juice

Thank you for purchasing the Edge *Juice* Module for the Dodge Cummins Diesel®. The *Juice* module has been developed and produced from the highest quality materials available to ensure the best performance for years to come. If you have any questions, please contact Edge Products. We will be very happy to answer your questions about our complete product line.

The Juice Module is an add-on Engine Control Module (ECM) for the Cummins® Engine that offers additional features not available with the factory setup. Since it is an add on ECM, it uses all the factory data, and then enhances the factory settings to optimize your truck's performance. These features include:

- Engine temperature monitoring and power increase from the Juice module as engine reaches operating temperature
- Three selectable power level settings via an in-cab 3-position switch (5 on-the-fly selectable power settings with the *Attitude*)

The Juice module offers a large power increase over stock throughout the rpm range, but the power is most noticeable in the midrange rpm's. This greatly improves drivability and towing performance. Transmission downshifting is greatly reduced, especially while passing or towing.

The Juice also regulates power delivery and timing based on engine temperature. This means that while the engine temperature is below 140° F no additional fueling or timing is delivered. At 140° F the module begins delivering fuel at 25% of the calculated additional fuel, and the percentage increases as the engine temperature increases, until at full engine temperature (174° F) the Juice delivers 100% of the calculated additional fuel. At full engine temperature the Juice also starts modifying timing.

Dodge Juice Getting

Supplied Items:

1. Edge Juice Module
2. Three Wire Ties
3. Two Velcro Strips
4. Power Level Switch (if no Attitude)
5. Fuse tap.

Required Tools:

10mm Box-end wrench or socket/ratchet (to connect ground wire)

Please read these instructions completely so that you understand each step prior to installation.

The Edge Juice Module

This picture shows the Edge Juice Module with the harness cable and Edge Attitude Display wiring (Attitude instructions on pg. 16)

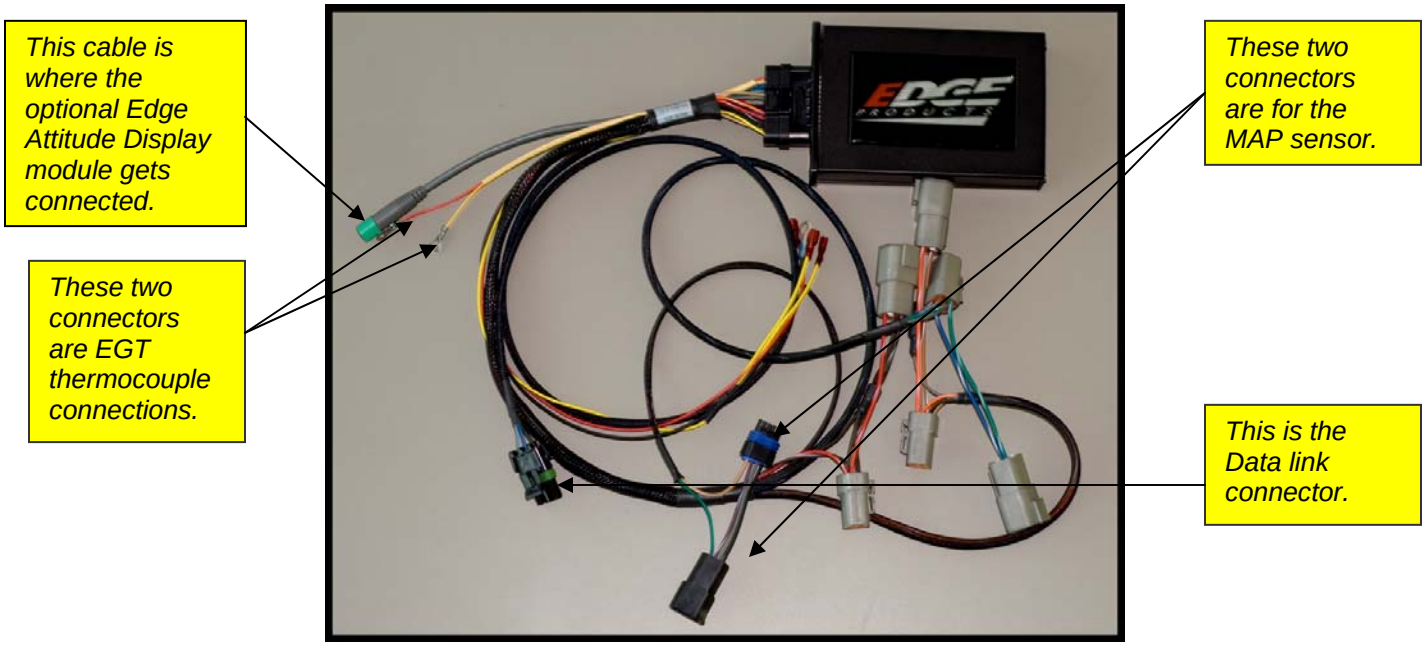

This cable is where the optional Edge Attitude Display module gets connected.
These two connectors are EGT thermocouple connections.
These two connectors are for the MAP sensor.
This is the Data link connector.

Figure 1.

Mounting the Juice Module

The Edge Juice Module can mount on top of or to the side of the black plastic fuse box cover located on the driver's side fender. Adhere the module using the supplied Velcro, allowing enough harness movement for removal of the cover. Note that installation is much easier if you do not mount the juice module until after all of the harness connectors are connected, and the power and ground lines are connected.

Figure 2.

Connecting the Harness

1. Disconnect all 3 stock injector connectors by squeezing the tab on the side of the connector.

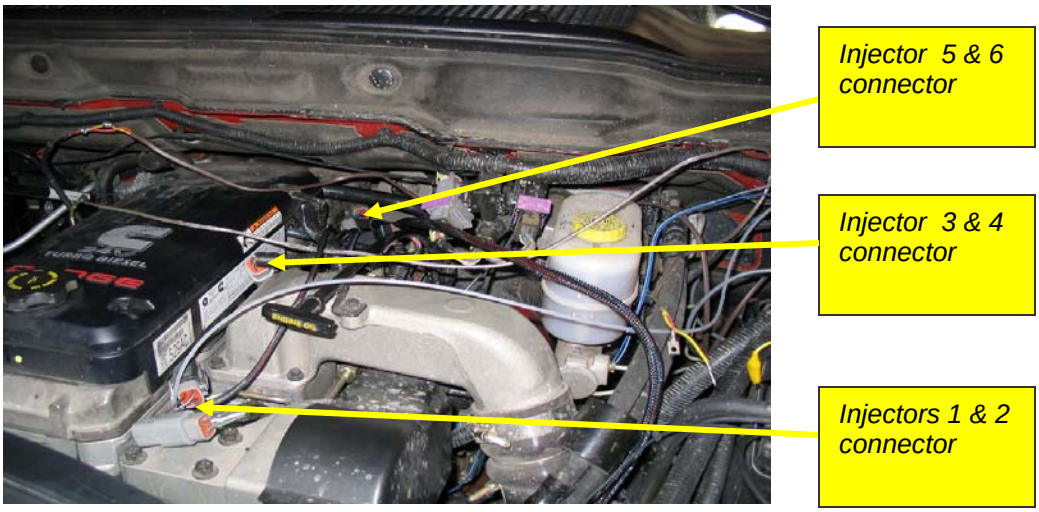


Figure 3.

2. Gently insert the Juice connectors between the stock connectors, and lock in place. Gently connect the stock connectors to the other end of the Juice connectors. The connector for injectors 1 & 2 is closest to the Juice box, and has Red/White and Brown/White wires. The middle injector connectors with Orange/White and Tan/White wires goes to injectors 3 & 4, and the last injector connector ties to injectors 5 &6.

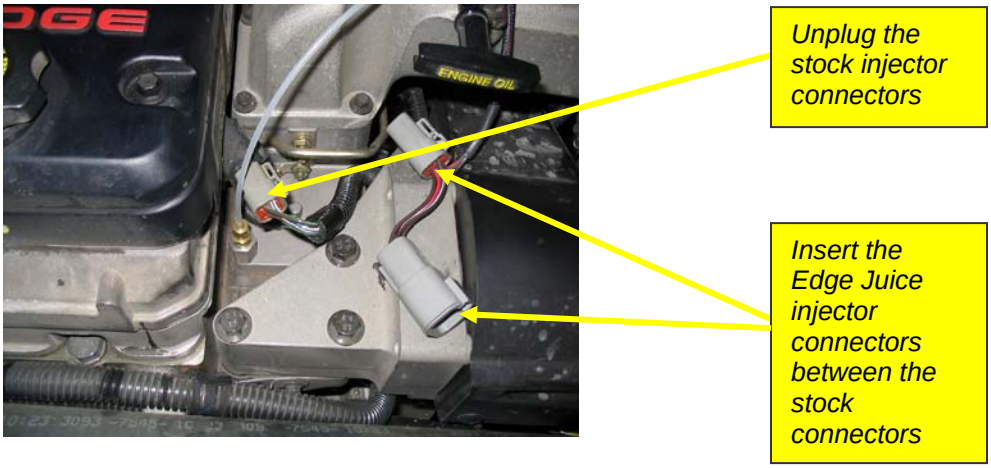


Figure 4.

Notice: Use caution when inserting connector bodies. If the connector does not slide smoothly, remove the connector, inspect the pins, and retry installation.

3. Next, connect the ground to the truck by removing the 10mm bolt from the fender, above the battery. Add the black ground wire with the round terminal to the wires already on the bolt. Replace and tighten the bolt.

Figure 5.

The MAP and Data link connector locations are shown in the picture below.

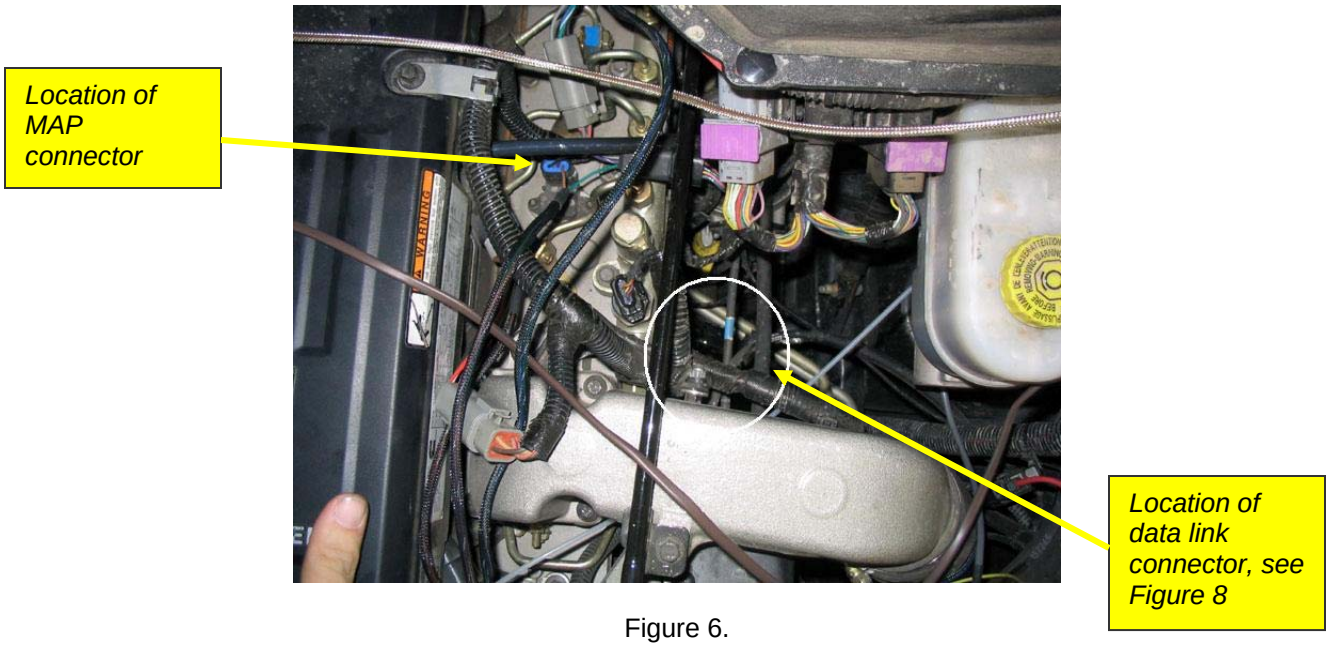


Figure 6.

4. Now install the MAP connector which is between the middle and back injector connectors on top of the motor, see figures 6 & 7.

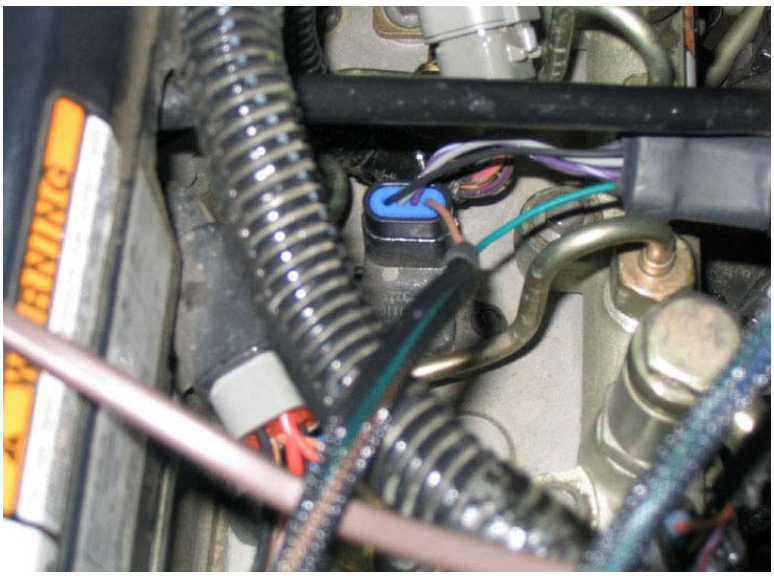


Figure 7.

5. Next, install the data link connector. The data link connector is behind the air intake horn down toward the bottom of the engine (see figures 6, 8, & 9).

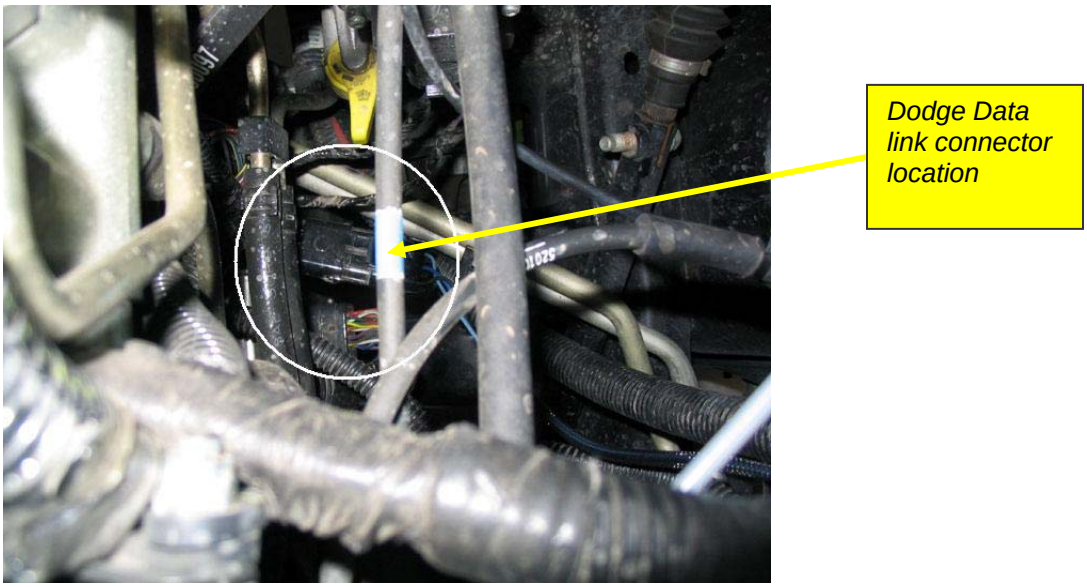


Figure 8.

It comes from the factory with a dummy plug in it. Remove the dummy plug, and connect the Edge data link connector into the socket. Save the dummy plug for use if the juice must be removed for truck service.

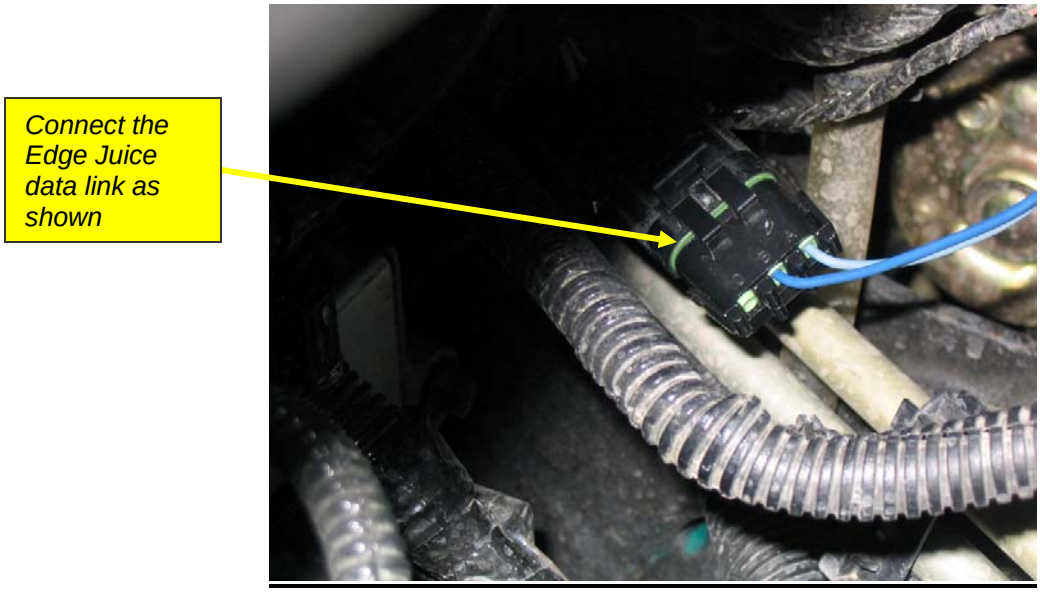


Figure 9.

6. Connect the red and yellow power wires by opening the fuse box.

RED WIRE

Remove fuse 26, and re-insert the fuse with the supplied fuse tap. If the fuse tap does not fit snugly, gently squeeze the terminal that slides over the fuse tap to make it fit more securely. **Connect the red power wire to the fuse tap making sure that you connect to the fuse post towards the back of the engine compartment, or the side closest to the firewall.**

YELLOW WIRES

Remove fuse numbers 28 and 35, and re-insert them with the supplied fuse taps, **Make Sure** the fuse taps are on the front side of the fuse, the side closest to the front of the vehicle. If the tap does not fit snugly, gently squeeze the terminal that slides over the fuse tap to make it fit more securely. Connect the yellow wires to the fuse taps on fuses 28 and 35.

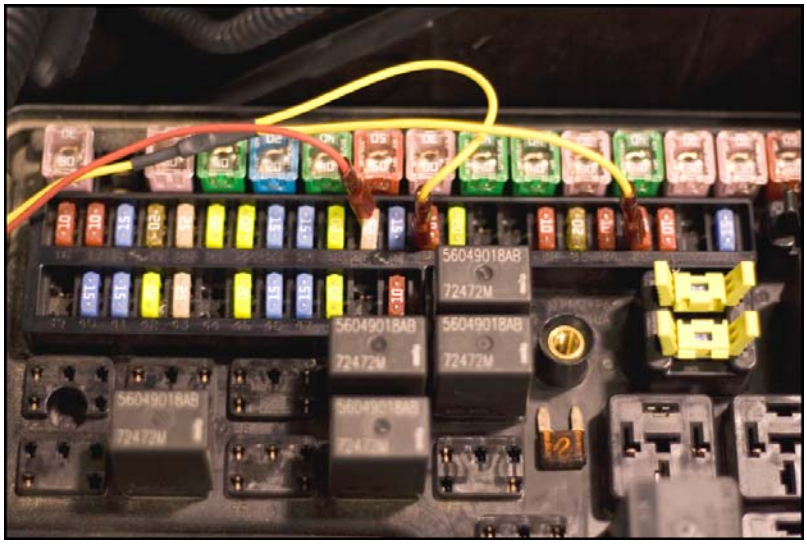


Figure 10.

7. Run the Attitude or 3-way switch wire through the firewall grommet near the steering column.

Final Inspection

8. Recheck all connections for a properly secure installation. Using the supplied wire ties, secure the wiring harness to prevent possible heat damage.

Start the engine. The engine should start and idle like a stock truck. If the engine does not start or run properly, turn off the motor, remove the keys from the ignition, then check the Juice module connections, making sure all connectors are fastened tightly. If failure conditions still exist, contact your dealer or Edge Products, LLC.

Using The Juice

Adjusting Power Levels

The Juice has three power levels which are adjustable via a 3-position toggle switch. The Juice has three power levels to choose from. This picture shows the switch that changes these power levels. The wire connected to the switch is long enough to allow installation of the switch in the cab of your vehicle.

The *Attitude* module allows five power levels plus stock. The Juice module was designed to allow the user to easily select an appropriate power level for normal driving or for towing.

It is recommended that you use the Tow/Haul transmission mode while towing. This provides torque converter lockup in gear 3 reducing transmission heat, and also raising the shift rpm threshold to keep the rpm's higher. It is recommended that you maintain engine rpm above 1800 while towing. When towing, the Juice module allows the engine to pull many grades in the mid rpm's rather than having to downshift and pull them in the high rpm's. This provides for lower EGT (Exhaust Gas Temperature) with the same power output. EGT rises significantly with rpm--especially above 2500. It is highly recommended that you install an EGT gauge while using the Edge Juice. You can also opt to limit the EGT with the *Attitude* monitor to maintain lower EGT levels.

When the module detects transmission slippage, it automatically defuels your vehicle to prevent slippage. If you detect a power loss during hard acceleration, this may be the reason.

It is recommended while towing you use power levels 1 or 2 due to EGT and transmission stress

Power Gains

The following power gains are representative of an actual test vehicle. These gains were measured on a SuperFlow Dyno at an altitude of 4400 ft above sea level, and represent power delivered to the rear wheels of the test truck. The only modification made to the test truck was the addition of the Edge Juice module. Power gains may vary somewhat on a different vehicle or in different geographic settings.

	Horsepower	*Torque*
Level 1:	25 HP	80
Level 2:	40 HP	120
Level 3:	80 HP	200

Making Sense Of It All

This section is designed to help you understand how the additional power will change your driving experience as well as help you figure out what power level will best suit your driving style.

The first thing you will probably notice, especially if this is your first time driving a diesel truck with a performance module, is that this is a whole different animal. You will experience more power, quicker take-offs, better passing and acceleration, and even better fuel economy. Power level one is specifically designed to maximize fuel economy improvements. (*if you can put off the little guy on your shoulder telling you to* '***step on it hard***').

If you are towing, the beauty of the extra power the Edge module delivers is that not only will be able to maintain speed going up a hill, but the added power will also keep you in a higher gear, so your transmission will not keep "hunting" for lower gears. We recommend level one or level two for towing applications.

The remaining power levels are designed to match fueling with any additional upgrades you may have done to your vehicle. Level 3 is as far as you should go on a stock truck and should never be used while towing. Level 3 is designed to take advantage of the built-in safety margins the manufacture needs to add in order to make sure your vehicle can tow at its maximum capacity.

Levels four and five are race levels and are designed to be used with upgraded drive trains. If you have modified your injectors, upgraded the transmission, changed turbos or performed other similar enhancements, levels four and five will match fueling to the additional performance created by these upgrades. On a stock truck, it is possible to overstress the engine and transmission while driving in levels four and five.

EGTs: What they mean and why

EGT stands for exhaust gas temperature, and is the single most important indicator of how a diesel engine is performing. Unlike a gasoline motor, a diesel motor will continue to make power as more fuel is added. As more fuel is added, heat will be generated until the motor just gets too hot and things start to melt. This is a situation you want to avoid. Exhaust gas temperature is the ideal measurement of how hot the motor is, since temperature fluctuations in exhaust gas are almost instantaneous. It is possible to generate excessive EGT on a stock truck, particularly if you are towing. This is why we always recommend installing an EGT gauge and

why we offer the Attitude monitor, which monitors EGT and will automatically defuel your truck when EGTs get too high. In our experience 1350 degrees is about as high as you want to let your EGTs go. Keep in mind, the stress on your engine created by the heat is a function of both temperature and time.

As you drive your truck in the various power settings, keep your eye on the EGTs. Depending on how you drive and where you drive, you may find a particular power level is more suitable to your power needs.

The Juice Module and your Transmission

The automatic transmission has a fluid-filled clutch-like device called a torque converter. This device uses the spinning motion of the motor to drive the transmission which drives your wheels. As the truck speed stabilizes, the torque converter engages a mechanical connection which locks the two halves of the torque converter, so the output shaft is going the same speed as the input shaft. This mechanical linking of the two halves is called ***Transmission Lock-up.*** If the motor produces too much power, this mechanical lock-up can start to slip. When this slippage occurs, the Juice module reduces the power output to allow the transmission to function properly. This is a great feature that provides an extra level of protection for your vehicle. Please keep in mind however, that if you run in level 4 or 5, the additional power is so great that it is possible to overstress a stock transmission if you drive too hard.

Edge on your Side

Edge takes a great deal of pride in the quality of our customer service. If you have any questions or concerns about your Juice module, please feel free to call us at 888-360-3343. Our tech support desk is open from 8:00 am to 5:00 pm Mountain time Monday through Friday.

Attitude Instructions

About The Attitude

Congratulations on purchasing the Attitude for the Dodge Cummins diesel. The following manual contains information and instructions on the proper use of the Attitude. Please read carefully before proceeding to install the Attitude to your vehicle.

The Attitude allows you to monitor the performance of your vehicle's vital engine components and output values. The following parameters can be displayed on the main Attitude screen (maximum of 4 at one time):

- EGT (exhaust gas temp.)
- RPM
- % Backdown
- % Load
- Intake Temperature
- Boost
- Speed
- Throttle position
- Engine Temperature
- Barometric Pressure
- Transmission Lock
- Transmission Slip

One of the most powerful features of the *Attitude* is the option to monitor the EGT of your vehicle and automatically lower the fuel input to maintain an EGT below a maximum desired level (we recommend 1350°F).

The following items should be included in your *Attitude* package:

1. The *Attitude* Module
2. Hook and Loop Mounting strips and wire ties
3. Attitude Mounting L Bracket
4. Exhaust Gas Thermocouple

Power Gains

The following power gains are representative of an actual test vehicle. These gains were measured on a SuperFlow Dyno at an altitude of 4400 ft above sea level, and represent power delivered to the rear wheels of the test truck. The only modification made to the test truck was the addition of the Edge Juice module and Attitude monitor. Power gains may vary somewhat on a different vehicle or in different geographic settings.

	Horsepower	*Torque*
Level 1:	25 HP	80
Level 2:	40 HP	120
Level 3:	60 HP	150
Level 4:	80 HP	200
Level 5:	100 HP	250

Dodge Attitude Getting Connected

The *Attitude* monitor connects under the hood to the Edge *Juice* module. Follow these steps to install the *Attitude*:

1. Place your *Attitude* monitor on the dash of your vehicle approximately where you want it installed and, with the driver's door open, feed the cable through the open door, and into the engine compartment via the slot near the hood hinge.
2. Using the supplied Velcro, attach the bracket to the surface of your dash, and secure the Attitude to the bracket using the two-sided tape *(see figure 1)*. Desired mounting locations will vary widely.

TIP: Before applying Velcro to your dash, use a cleaning solvent to remove any non-sticking substance like Armour All.

Figure 1.

3. Connect the *Attitude* to your Edge *Juice* module by snapping together the cables with the green connections *(see figure 2)*. Secure any excess cable to prevent entanglement with moving engine parts.

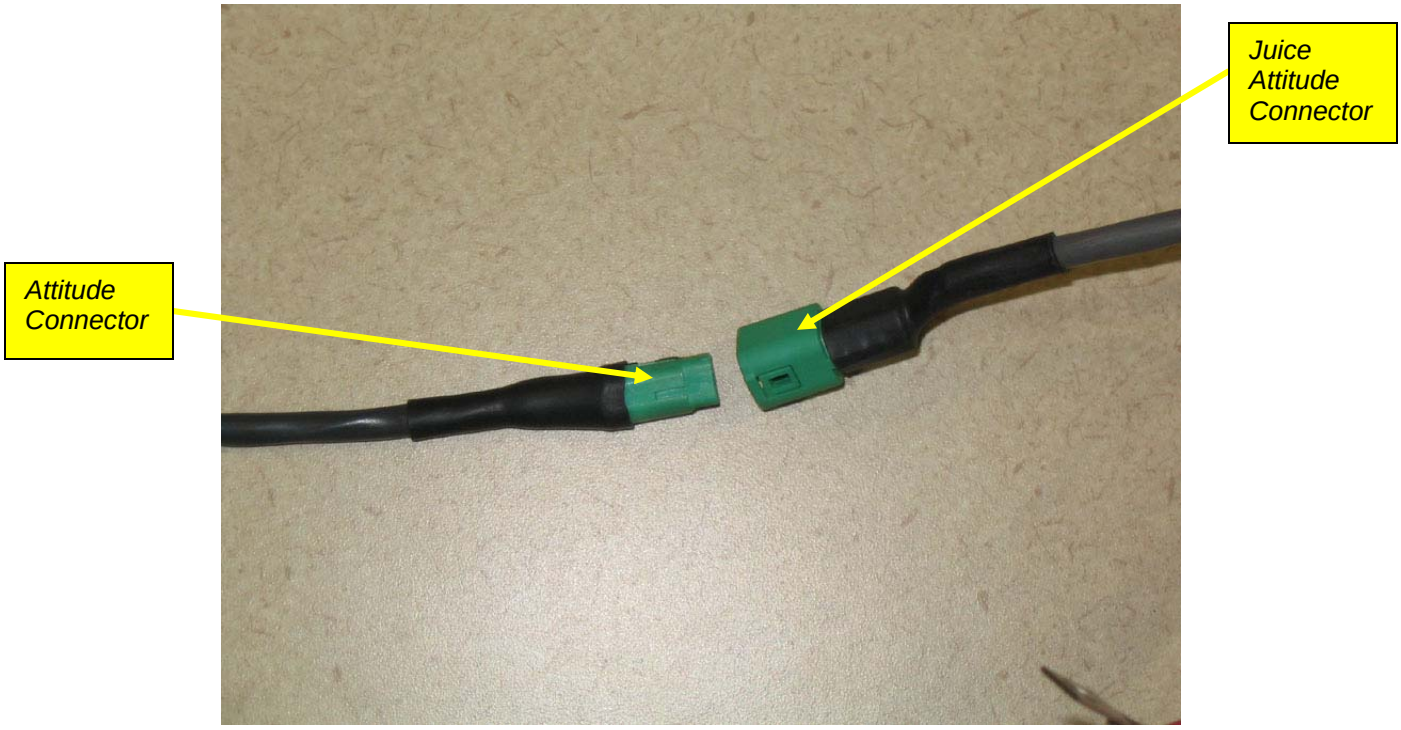


Figure 2.

4. It is necessary to tap a small hole into your exhaust manifold to insert the EGT sensor. **The EGT probe must be mounted in the exhaust manifold before the turbo inlet to operate properly.** Drill the hole using a 21/64" or 5/16" drill bit, then tap it with an 1/8" NPT tap *(see figure 4)*. Once the hole is drilled and tapped, run the motor at idle for 10 to 15 seconds to clear the few remaining shavings from the manifold.

Once the engine has been run, screw in the fitting and insert the EGT sensor by sliding it into the hole *(see figure 4)* and tightening the back end fittings *(see figure 3)*.

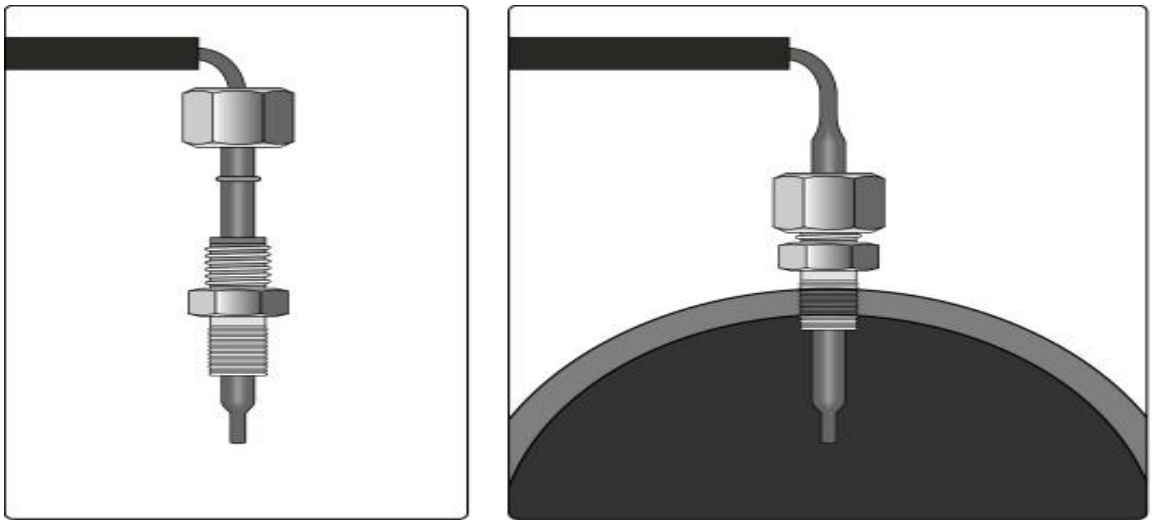


Figure 3.

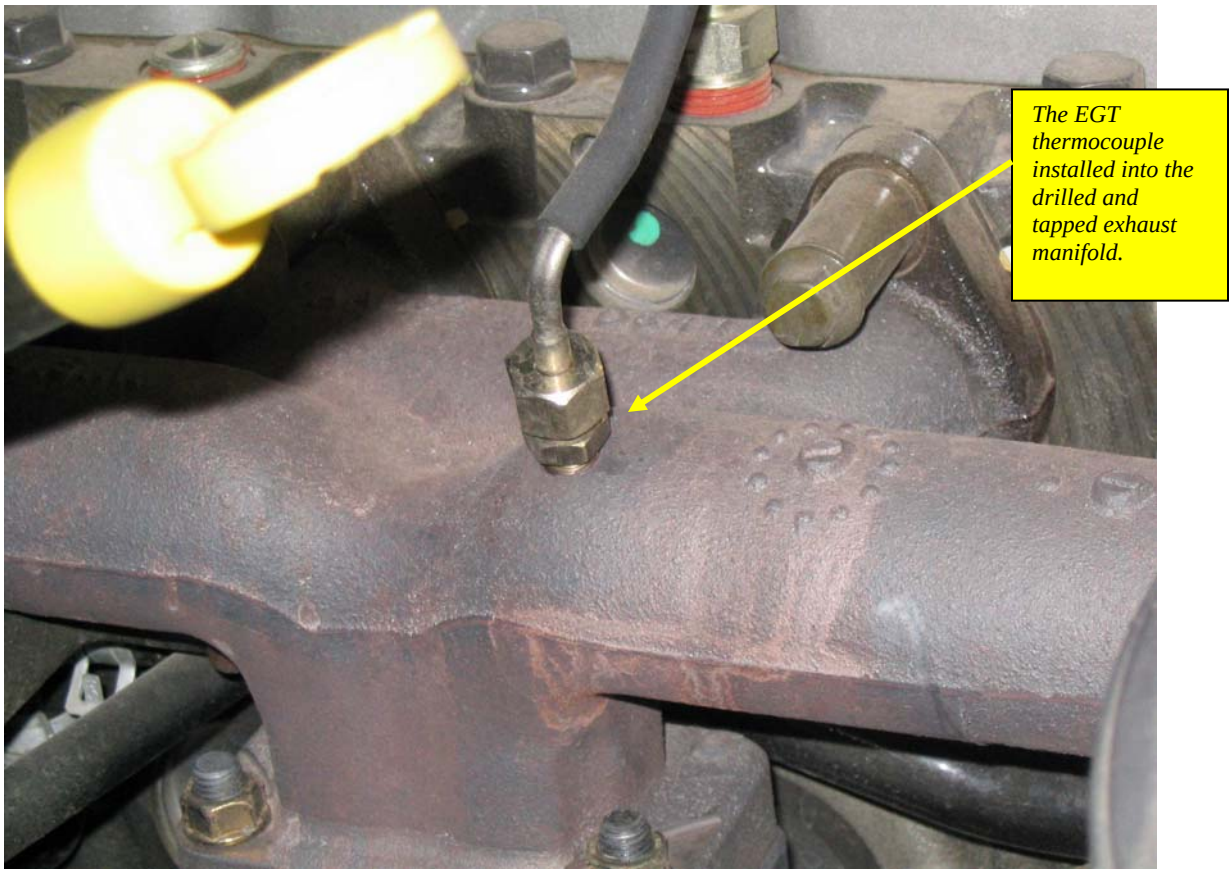
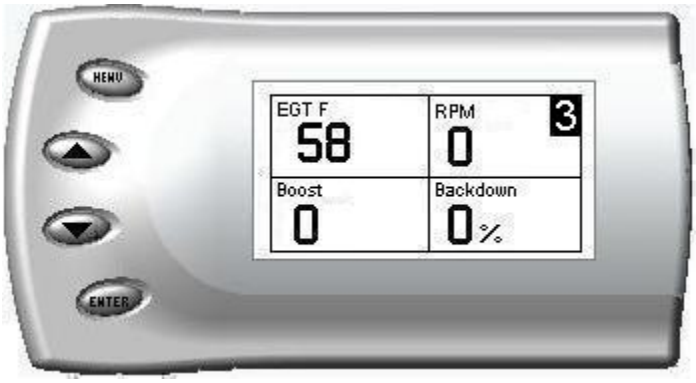


Figure 4.

Once your *Attitude* monitor is installed successfully and you have turned on your vehicle, you will be prompted to indicate acceptance of the user agreement contained in this user manual. To indicate you accept the agreement, press the [Enter] button. This screen will appear the first five times the *Attitude* monitor is used.

MENU
ENTER
IMPORTANT: I accept the terms and conditions of use contained in Owner's Manual.
Press <ENTER> to agree.
Warnings remaining: 4

Once you have accepted the user agreement, you will see a screen similar to the following:

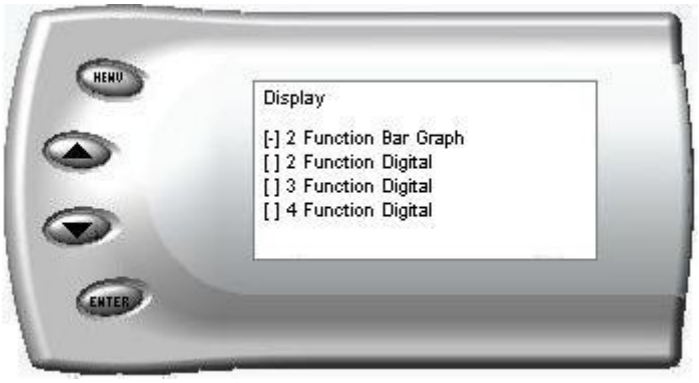


Changing the Display View

The *Attitude* allows you to view multiple vehicle parameters on the same screen. To select a desired view, perform the following steps:

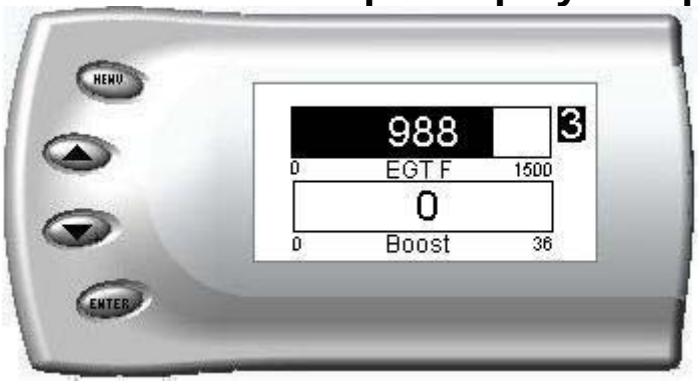
1. Press the [Menu] button until the *Setup* screen appears:

2. Select the *Display* option and press the [Enter] button. The following screen appears:

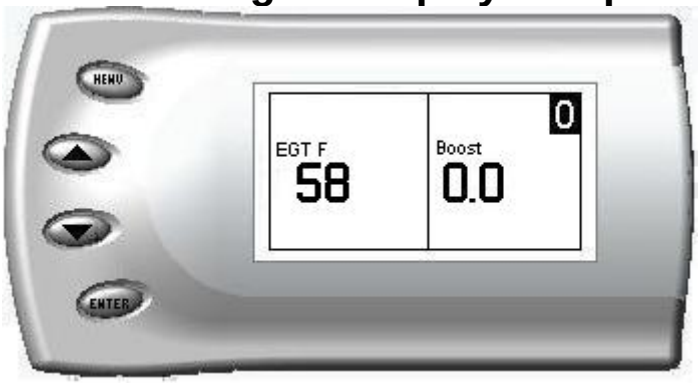


3. Select the desired viewing option by using the up and down arrows and pressing the [Enter] key. Below are examples of the display options:

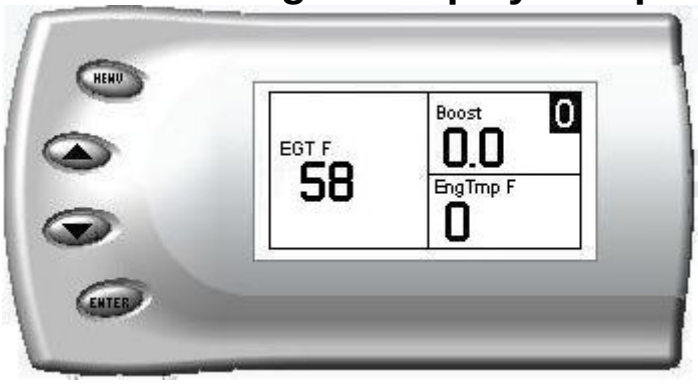
Two Function Bar Graph Display Sample



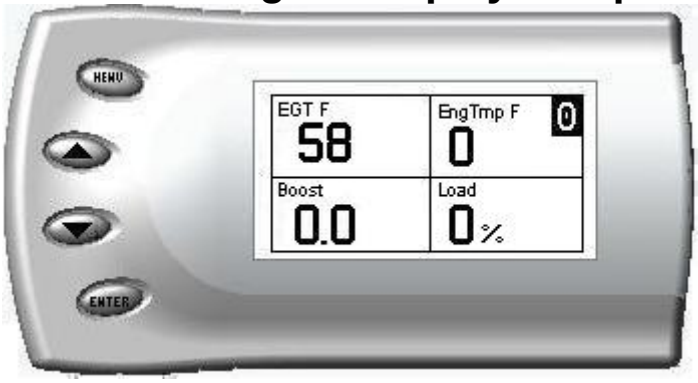
Two Function Digital Display Sample



Three Function Digital Display Sample



Four Function Digital Display Sample

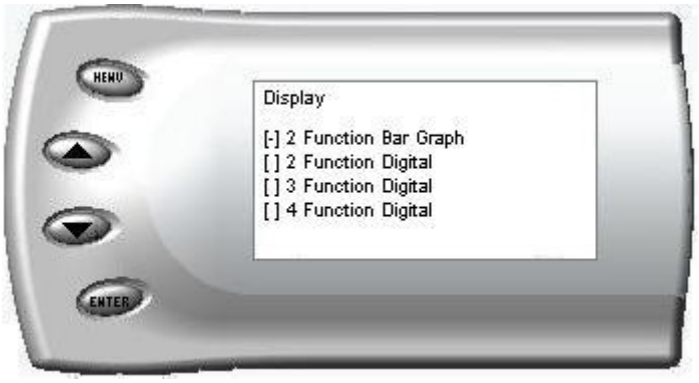


Changing the On-Screen Variables

To change the variables on the screen, perform the following steps:

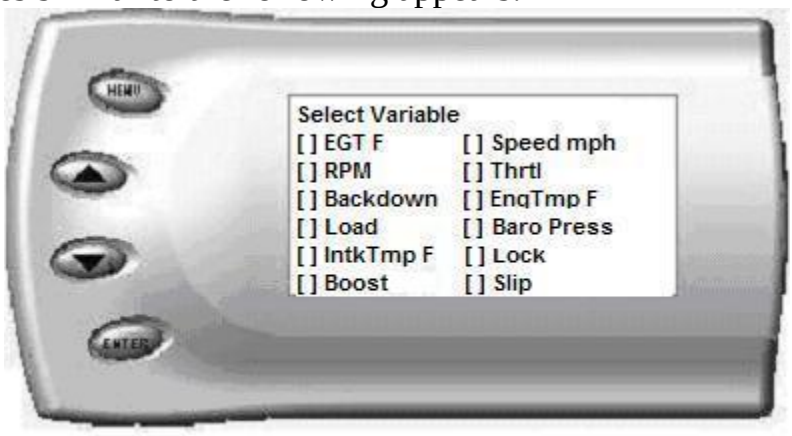
1. When viewing the vehicle parameter screen, press the [Menu] button. The following screen appears:

2. Select the *Display* option and press [Enter]. The following screen appears:



3. Select the display layout you have previously chosen and the following screen appears:

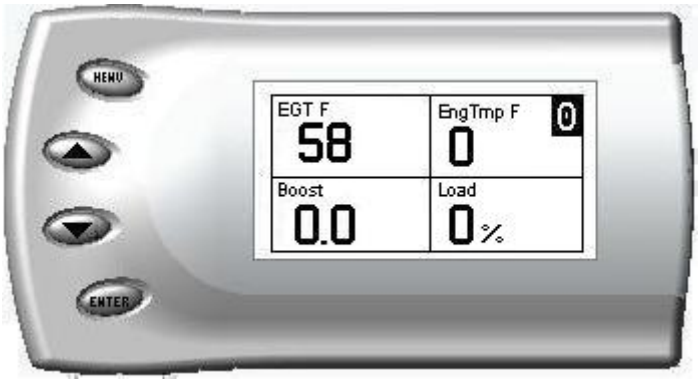
4. This screen lists the current variables and their respective positions on the screen (i.e., TOP LEFT, etc.). Select the variable you would like to change and press [Enter]. A screen listing the possible replacement variables similar to the following appears:



5. Select the variable you would like to view and press [Enter]. The *Setup Digital Displays* screen appears again listing the variable options you have chosen to view. If you have no more changes, select the *Set As Display* option and press [Enter]. The vehicle parameter screen appears with your desired variable in view.

Adjusting the Backlight

When viewing vehicle parameters (like the sample below) press the [Enter] button to adjust the backlight. Each time the [Enter] button is pressed, the backlight will change to either bright, dim, or off.



Alerts

The *Attitude* can alert you when certain vehicle parameter levels are met such as EGT, Boost, Speed, and Engine Coolant Temperature. When these parameter thresholds are met, the *Attitude* screen will display the current value and you will hear a repeating alarm. The volume of this alarm cannot be changed. The alerts default to on, and the default values of the parameters are noted in each section below. To set alerts, follow these steps:

1. Press the [Menu] button until the *Setup* screen appears:

2. Select the *Alerts* option and press [Enter]. The following screen appears:

3. Turn alerts *Off* by scrolling to the *Alerts On/Off* option and press [Enter] to turn alerts On or Off.
4. To change the EGT Alert value [default is 1350] scroll to the *EGT Alert* option and press [Enter]. The following screen appears:

5. Press the up and down arrow keys until you see the desired EGT level at which you want to be alerted and press [Enter] to set that value.
6. To change the Boost Alert value [default is 36] scroll to the *Boost Alert* option and press [Enter]. The following screen appears:

7. Press the up and down arrow keys until you see the desired Boost level at which you want to be alerted and press [Enter] to set that value.

8. To change the Speed Alert value [default is 70] scroll to the *Speed Alert* option and press [Enter]. The following screen appears:

9. Press the up and down arrow keys until you see the desired Speed level at which you want to be alerted and press [Enter] to set that value.
10. To change the Engine Temperature Alert value [default is 210] scroll to the *EngTmp Alert* option and press [Enter]. The following screen appears:

11. Press the up and down arrow keys until you see the desired Engine Temperature level at which you want to be alerted and press [Enter] to set that value.

Note: If you desire to temporarily disable an active alert, press any key (MENU, arrow or ENTER) and the alert will temporarily stop. When any of the alarm parameters drop below the set thresholds, then exceed them again, the alert will start up again.

Records

The *Attitude* can record some of the maximum vehicle parameters and performance test values. These records are stored in the Records section of the *Attitude*. To view or clear these values, follow these steps:

1. Press the [Menu] button until the *Setup* screen appears:

2. Select the *Records* option and press [Enter]. The following screen appears:

3. All of the records are stored on this screen. To clear an individual record, select that record and press [Enter]. To clear all the values, select *Clear All* and press [Enter].

Performance Tests

The *Attitude* allows you to test the performance of your vehicle by timing the 0-60 and the ¼ mile times. To run these tests, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:

2. Select the *Performance Tests* option and press [Enter]. The following screen appears:

3. Select the desired performance test and press [Enter]. The following screen appears:

4. When your vehicle is at a complete stop, the following screen automatically appears:

5. When you press the accelerator pedal, the screen returns to the display mode and automatically begins the performance test. During testing, a "T" appears in the upper right corner of the screen indicating that testing is in process. When the test is complete (the desired distance or speed is reached) the test will automatically stop and your time will be displayed on the screen like the following (quarter mile result example):

Juice Configuration

The *Attitude* allows you to configure your *Juice* module in a variety of ways. To change the *Juice* configurations, perform the following steps:

1. Press the [Menu] button until the *Setup* screen appears:

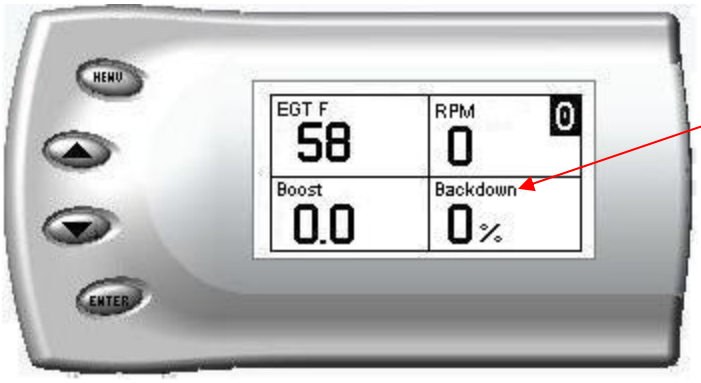
2. Select the *Juice Configuration* option and press [Enter]. The following screen appears:

3. Select the desired option and press [Enter]. The following are descriptions of each of the *Juice* Configuration options available:

Max EGT Set Point

The Attitude monitors EGT and will automatically defuel your truck at a specified max EGT set point. In our experience 1350 degrees is about as high as you want to let your EGTs go. As the exhaust gas temperature approaches the EGT set point, a percentage of defueling occurs. This percentage is represented by the backdown value you can display on your screen. When this value reaches 100% the fueling delivered by the *Juice* module has been totally disabled. However, stock fueling will allow the truck to reach stock EGT levels which may exceed the preset *Max EGT Set Point* which you established in the *Attitude*.

Important Note: Any other high performance modifications in addition to the *Juice* can allow the fueling to exceed stock EGT levels even after 100% backdown is reached, which may result in dangerous EGT levels.



The backdown percent represents the amount of defueling that is occurring when the max EGT level is reached.

After selecting the *Max EGT Set Point* option from the *Juice* Configuration screen (previous steps), the following screen appears:

1. Change the Max EGT set point by pressing the up and down arrow keys to select the maximum temperature that you want your exhaust gas temperature to reach, then press [Enter]. When the exhaust gas temperature reaches this value, the power delivery will be decreased to prevent the temperature from exceeding this set value. On the Cummins 600 Juice/Attitude module, default values are set for EGT and Boost maximum

values. Increasing these above the default value set by Edge Products introduces the risk of damage to your truck. Please note also that disabling the backdown disables both EGT and Boost backdown protection.

MAX Boost Set Point

The MAX boost set point adjusts the point at which the *Attitude* begins to backdown fueling due to boost. This is adjusted exactly like the EGT set point, and the screen looks like this. Note that increasing the Max boost set point above 36 PSI increases the risk of damage to your turbocharger.

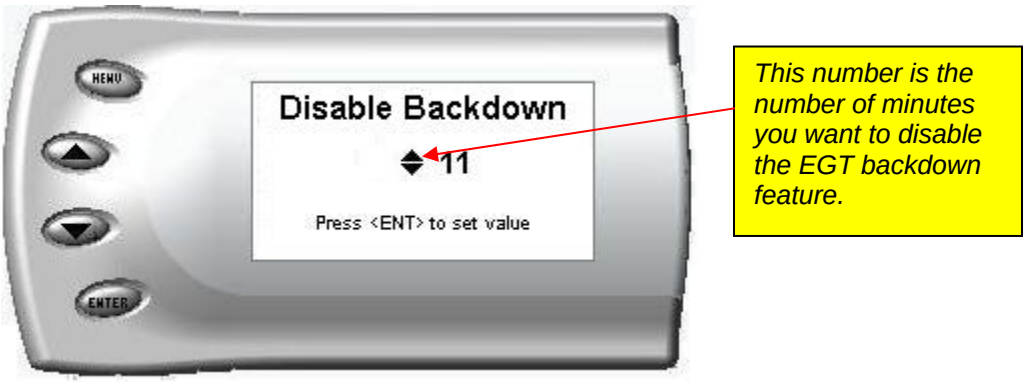
Disabling Backdown for Excessive Boost and EGT

There are times you may want to disable the Boost and EGT backdown feature for a limited period. You may disable the backdown feature for a period of 1-30 minutes.

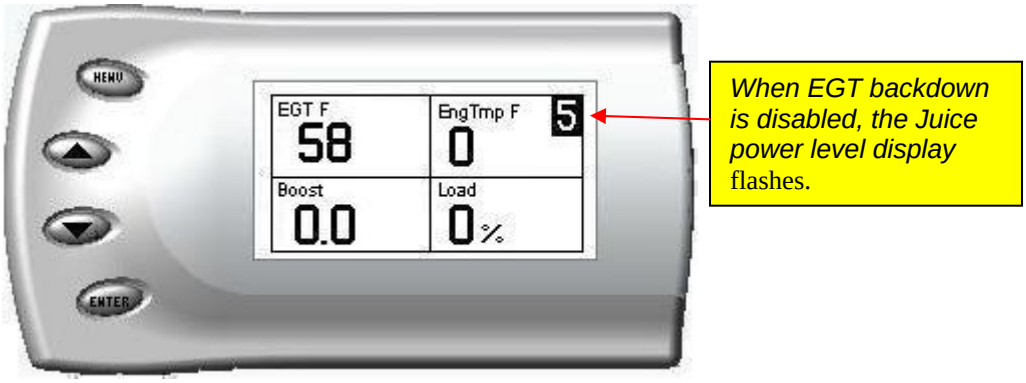
Warning: Disabling this feature could lead to dangerous EGT and Boost levels.

To temporarily disable the backdown feature, perform the following steps:

1. While viewing the vehicle parameters, press [Enter] twice quickly and the following screen appears:

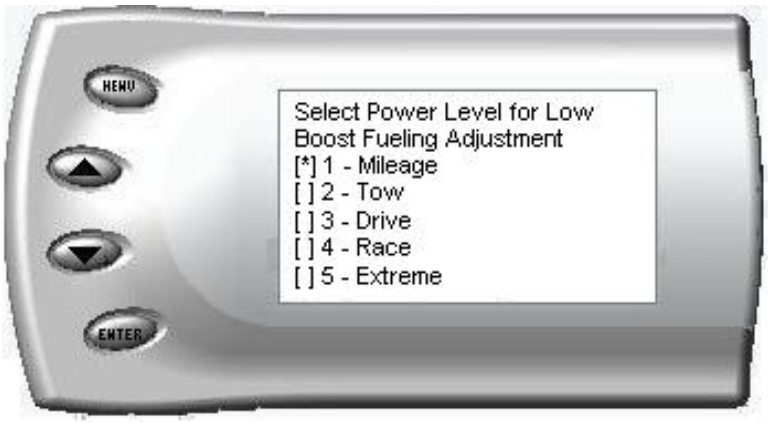

MENU
ENTER
Disable Backdown
11
Press <ENT> to set value
This number is the number of minutes you want to disable the EGT backdown feature.

2. The number on this screen represents the number of minutes the Backdown feature will be disabled. Press the up or down arrow keys to select the desired number of minutes you would like this feature disabled. (The number of minutes you do NOT want your power decreased because of high EGT or Boost levels.)
3. After you have selected the number of minutes you would like the EGT backdown option disabled, press [Enter]. The screen will return to your previous view mode, and the *Juice* power level indicator will flash until the designated time for disabling has been reached. When the *Juice* power level indicator quits flashing, your set max EGT backdown level will go into effect.

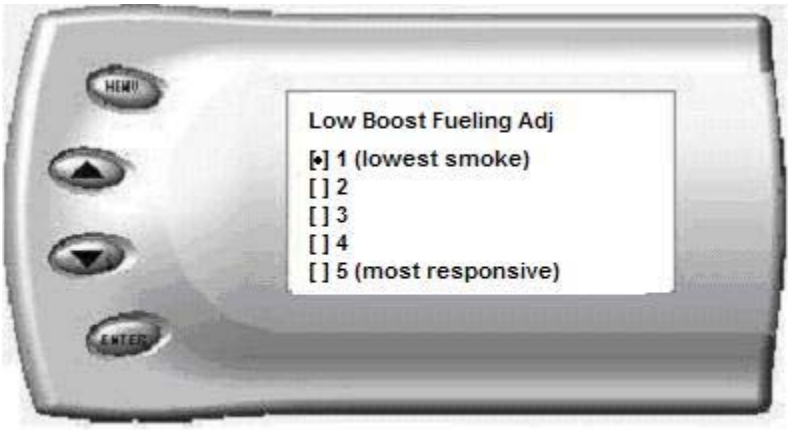


Low Boost Fueling Adjustment

After selecting the *Low Boost Fueling Adj* option from the *Juice* Configuration screen (previous steps), the following screen appears:



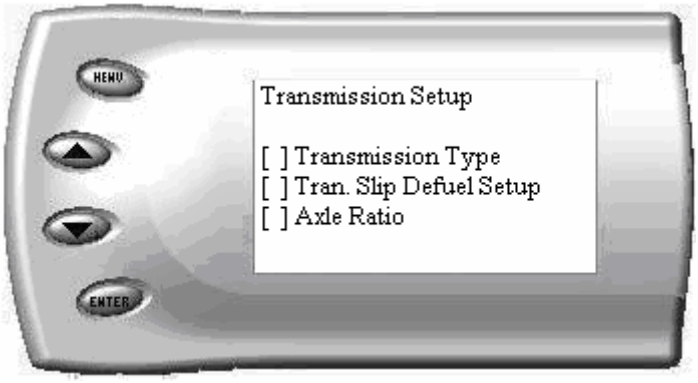
Select the power level for which you want to adjust the low boost fueling and press Enter. When you press Enter, the following screen appears allowing you to select the Low Boost Fueling Adjustment level that will be unique to that level and every time you select that power level the fueling adjustment will be set to what you chose on this screen.



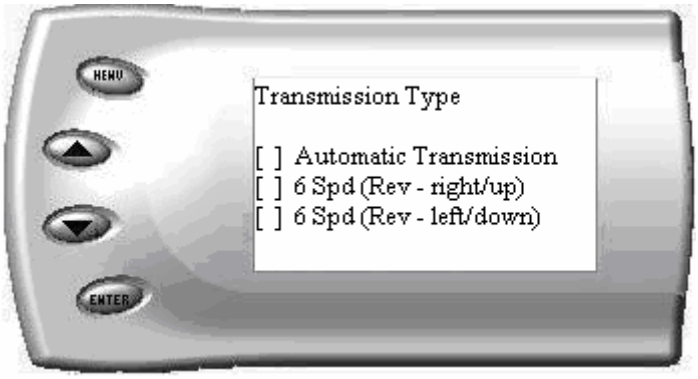
Adjusting the fuel at low boost allows you to adjust the response and smoke output before the turbocharger builds boost pressure in the intake. Select level 1 for the lowest level of response and smoke at low boost, and select level 5 for the highest level. You will see a significant change in vehicle response and smoke depending upon which level you select. To leave this screen, press the [Menu] button multiple times.

Transmission Setup

Selecting *Transmission setup* will bring up the following screen:

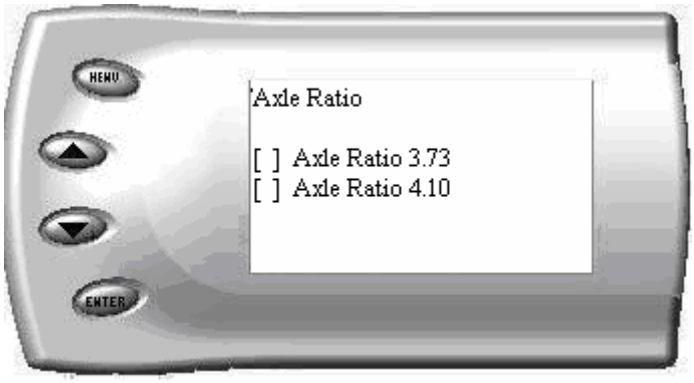


Select "Transmission Type" to choose the transmission that your truck has

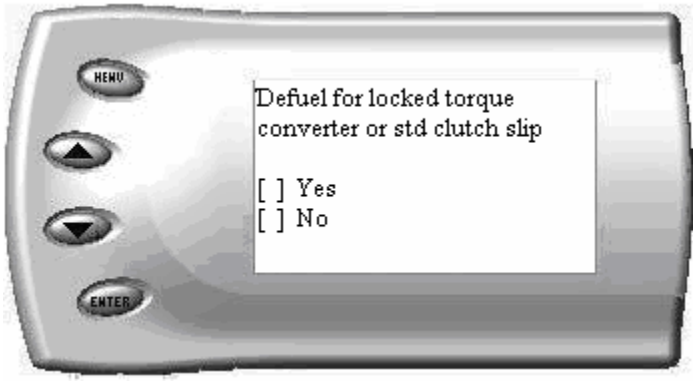


If your truck is a 6 speed, choose the option that matches the position of reverse on your transmission

Select the Axle Ratio that matches your truck



Select the Trans. Slip De-fuel Setup that best suits your needs

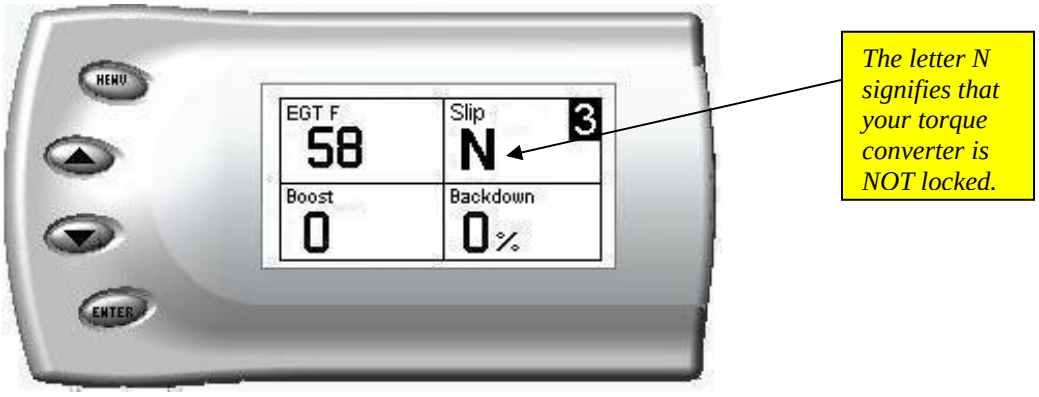


Selecting No prevents the *Juice* module from defueling when the torque converter or clutch is slipping. This means that the *Juice* will provide the full amount of fueling even when the transmission or clutch is slipping. Selecting 'Yes' will enable de-fueling, causing the *Juice* to defuel whenever the transmission slips. This eases the transmission strain because the *Juice* lowers its power output when the torque converter or clutch is slipping.

Note: It is recommended that defueling during torque converter or clutch slip be used for stock transmissions.

Transmission Slip

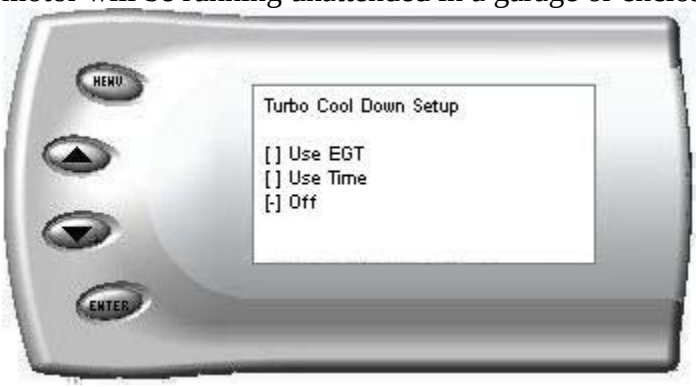
When the letter "N" appears in the Slip view mode (see below) your vehicle's torque converter is NOT locked or (if your vehicle has a manual transmission) your transmission is not in a specific gear.



Turbo Cool Down Setup

This feature is only available with the Attitude monitor installed and allows the engine to continue running (after key-off) until one of two conditions are met. 1) if the EGT falls below the preset target EGT set point or 2) the time set expires. Press the brake pedal to override this feature and shut off the motor.

WARNING: Due to potential exhaust buildup, **do not use** this feature if your vehicle's motor will be running unattended in a garage or enclosed area.



Use EGT

Use Time

NOTE:
The Turbo Timer will not function unless:

1. At least ten seconds have passed after key on

2. After the ten seconds have expired, the Juice has seen an RPM above 1100

WARNING:

IF YOU HAVE A STANDARD SHIFT VEHICLE MAKE SURE TO LEAVE THE TRANSMISSION IN NEUTRAL, AND APPLY THE PARKING BRAKE WHEN USING THE TURBO TIMER!!

Tire Size

If you have stock tires on your vehicle, there is no need to adjust the tire size in the Attitude. After selecting the *Tire Size* option from the *Juice* Configuration screen (previous steps), the following screen appears:

The numbers on this screen represent the circumference of your tire. Adjust the tire size by pressing the up/down arrow keys. The table below will help you determine your wheel circumference by matching your tire size with the sizes listed. For example, if your tire size is 285/ 65/ 18R, the value (circumference) you enter into the *Attitude* is 2599.0. Another alternative is to measure your tire's circumference by marking your tire and rolling it one complete revolution and measuring the distance then multiply the inches by 25.4 (i.e., 91.3 inches x 25.4 = 2319.0 mm).

Width	Ratio	Rim	Circumference
215	75	16	2288.8 mm
245	75	16	2430.0 mm
265	75	16	2524.2 mm
285	75	16	2618.4 mm
295	75	16	2665.5 mm
305	75	16	2712.6 mm
315	75	16	2759.7 mm
325	75	16	2806.8 mm
265	70	17	2520.8 mm
285	75	17	2698.2 mm
315	75	17	2839.5 mm
285	65	18	2599.0 mm
285	60	18	2509.5 mm
325	60	18	2660.2 mm
265	70	16	2441.0 mm
275	70	16	2485.0 mm
305	70	16	2616.9 mm

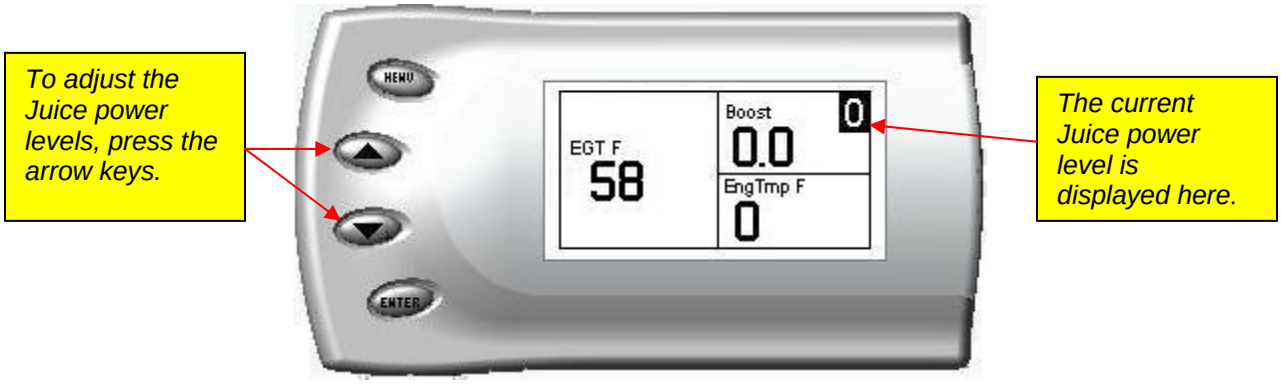
Tire Size	
33	2631.9 mm
35	2791.5 mm
37	2951.0 mm
38	3030.7 mm

***IMPORTANT NOTE**

If you have had your speedometer recalibrated for aftermarket sized tires, the Juice module's transmission slip protection and mph display will not function properly. If you prefer to leave the speedometer recalibrated, then make sure that the transmission slip protection is turned off to avoid improper de-fueling.

Adjusting Juice Power Level

The *Juice* power level is displayed in the upper right-hand corner of the screen when vehicle parameters are being viewed. To adjust the power levels, press the arrow keys to the desired level. Levels can be changed at any time while viewing vehicle parameters.



Glossary of Terms

Backdown – This is decreasing the amount of additional fueling. % Backdown is the percentage of **additional** fuel held back. The Juice/Attitude includes a feature to backdown the fueling to control critical parameters such as EGT and Boost.

Barometric pressure – This is a measurement of the atmospheric pressure, mainly due to your altitude (above or below sea level) and the current weather conditions.

Boost – This is how much additional air pressure is added to the intake/throttle body of the truck by the Turbocharger.

Defueling – This is decreasing the amount of fuel added to the motor (see Backdown). Both the PCM and the Juice do defueling, but the Juice can only 'Backdown' to stock fuel. The Juice does not 'Backdown' below stock fueling.

EGT – This is an acronym for **E**xhaust **G**as **T**emperature. This is the temperature of the burning gasses leaving the motor through the exhaust. Generally, EGT should not be permitted beyond 1250°F to prevent turbocharger damage.

Load – This is the percentage of total fuel supplied by the PCM.

Low Boost Fueling – This is a Juice setting controlling extra fueling before the turbo boost builds. The higher the setting, the more fuel the Juice adds

PCM – This is an acronym for **P**owertrain **C**ontrol **M**odule. This is the main onboard computer that controls the operation of the motor and transmission.

Pyrometer – See Thermocouple

Power braking – This is the process of revving the engine while keeping the brakes on. This is done to spool the turbo to a usable level (for racing).

Spooling – This is the process of generating turbo boost pressure by revving the motor.

Thermocouple – This is a device used for measuring the temperature of the exhaust gases.

Turbo/Turbocharger – This device pumps extra air into the engine intake.

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Technical Support: (801) 476-3343

To expedite your support call, please have part number (i.e., EJD3000), version number, and Date of Manufacture ready prior to calling support.